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| 10/678,170 | 10/06/2003 | David Joseph Kropaczek | 24GA6001 | 2278 |

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| EXAMINER | |
|---|---|
| CRAIG, DWIN M | |

| ART UNIT | PAPER NUMBER |
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/678,170 | KROPACZEK ET AL. | |
| | Examiner | Art Unit | |
| | DWIN M. CRAIG | 2123 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *1/30/2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *35-48* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *35-48* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

## DETAILED ACTION

**1.** Claims 35-48 have been presented for reconsideration based on Applicants' arguments and amended claim language.

### *Response to Arguments*

**2.** Applicants' arguments presented in the 1/30/2008 responses have been fully considered; the Examiner's response is as follows:

**2.1** As regards the objections to claims 35, 40-43 and 47 as set forth in the previous Office Action; the Examiner thanks the Applicants' for amending the claim language and hereby withdraws the previously applied objections to the claims.

**2.2** Regarding Applicants' response to the 35 U.S.C. 103(a) rejections of claims 35-48; on page 8;

"With regard to claims 35 and 42, the Examiner alleges that O'Sullivan teaches each and every element of those claims, with the exception of a loading tool, which is taught by Hogan. The Examiner specifically points to O'Sullivan's teaching of rotation of symmetric assemblies within the core to meet the claim element "the populating based on one or more fuel attributes of the fuel bundles in the fuel pool." Applicants respectfully submit that rotating symmetric bundles already within the core is not populating the core as recited in claims 35 and 42. Where O'Sullivan discuses populating the core, it does not disclose doing so based on fuel attributes, let alone tools for doing so. See O'Sullivan ¶ 4, first sentence. Without teaching moving fuel bundles into the core based upon a fuel bundle attribute, O'Sullivan does not teach or suggest the "populating" recited in claims 35 and 42."

The Examiner respectfully traverses Applicants' argument, an artisan of ordinary skill would realize that the purpose of the teachings of *O'Sullivan* are clearly for the purpose of *populating, emphasis added* a fuel core. Clearly, the disclosed teachings of *O'Sullivan* are directed towards refueling a nuclear fuel core, on page 2 of *O'Sullivan* is disclosed, "In both PWR and BWR versions, the core design engineer can swap assemblies in the core or "drag and drop" assemblies and their modeling data from the Spent Fuel Pool or Fresh or Fresh locations to the core. A Fuel Inventory summary is displayed to keep a running tabulation of the number of assemblies in each location." Clearly this is teaching that disclosed teachings of *O'Sullivan* are not directed to a "hobby" or "abstract simulation" but intended for actual use in refueling a fuel core and that this is being performed so that actual fuel bundles can be *populated.*

Applicants' arguments have been unpersuasive and the previously applied prior art rejections will be maintained.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.

3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

**3.** Claims 35-48 are rejected under 35 U.S.C. 103(a) as being unpatentable over "MICROBURN–B2 to RETRAN-3D Linking Code" by Donald Hines and "CPW for SIMULATE-3 by Kevin O'Sullivan contained in the "Update…" newsletter hereafter referred to as the *O'Sullivan* reference in view of U.S. Patent 5,414,809 to Hogan.

**3.1** Regarding independent claims 35 and 42 and using independent claim 35 as an example, *O'Sullivan* discloses, *a method of moving nuclear fuel from a fuel pool, the method comprising: graphically populating, via a graphical user interface, a graphical loading map with graphical fuel bundles, the graphical bundles representing fuel bundles in at least one fuel pool* (see the Figure on page 2 as well as the text "Clicking on the EXCEL command buttons loads data and graphs into a new or existing worksheet", a spreadsheet is a *graphical loading map*), *the populating based on one or more fuel attributes of the fuel bundles in the fuel pool, the graphical user interface configured to graphically select, sort, or move graphical fuel bundles* (page 1 discloses, "Using a right click on the mouse, groups of symmetric assemblies can be rotated 90,

180 or 270 degrees, core locations are darkened where an assembly has been moved." Being able to select a *symmetric* group of assemblies clearly teaches the limitation of *selecting, sort or move*) *into the graphical loading map based on one or more fuel attributes represented by the graphical fuel bundles* (pages 1 & 2 and more specifically, "In both PWR and BWR versions, the core engineer design engineer can swap assembly locations in the core or "drag and drop" assemblies and their modeling data from the Spent Fuel Pool or Fresh Fuel locations to the core."); *and physically placing the fuel bundles into a reactor core according to the populated graphical loading map.*

However, *O'Sullivan* does not expressly disclose, *including one or more loading tools.*

*Hogan* teaches, *a graphical user interface including one or more loading tools*, specifically Figure 9 shows a Graphical User Interface tool identical to the GUI tool disclosed in Applicants' Figure 3 item # 160.

*O'Sullivan* and *Hogan* are from the same problem solving area of providing Graphical User Interfaces for performing data manipulation.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to have used the GUI tool of *Hogan* in the GUI environment of *O'Sullivan* to transfer items from the Spent Fuel Pool locations as detailed by the figure on page 2 of *O'Sullivan* into a reactor core during fuel recovery.

The suggestion for doing so would have been to provide an easy to use interface for moving data from one table, *spent fuel pool* to another table *a fresh fuel table* without any special knowledge of a computer interface. The efficiency and ease of use would motivate an artisan of ordinary skill to provide the GUI tool as disclosed in *Hogan* in the Graphical User

Interface environment as disclosed by *O'Sullivan*, the Examiner further notes that the type of tool as disclosed in *Hogan* is well known in the Graphical User Interface art and further that an artisan of ordinary skill in the GUI programming arts would have been motivated to add this type of GUI tool in order to make any simulation software easier to use. Further and in regards to the requirement for a teaching, suggestion and/or motivation please see *Dann v. Johnson,* 425 U.S. 219, 189 USPQ 257 (1976) and *Leapfrog Enterprises, Inc. v. Fisher-Price, Inc.,* --F.3d--, 82 USPQ2d 1687 (Fed. Cir. 2007) as well as *KSR International Co. v. Teleflex Inc.,* 550 U.S. --, 82 USPQ2d 1385 (2007). The cited cases recently decided by the Federal Circuit Court as well as the U.S. Supreme Court clearly set forth that the references themselves do not have to expressly disclose a teaching, suggestion or motivation to combine references in an obviousness type of art rejection.

Therefore it would have been obvious to combine *Hogan* with *O'Sullivan* in order to obtain the invention as specified in claims 35-48.

**3.2** Regarding claims 37 and 43 and using claim 37 as an example, *O'Sullivan* combined with *Hogan* teaches, *wherein the graphical user interface further includes at least one fuel pool table and a reload table, wherein the graphically populating includes, graphically selecting, sorting, filtering, or moving the graphical fuel bundles within or among the graphical loading map, the at least one fuel pool table, and the reload table via the one or more loading tools, the selecting, sorting, filtering, and moving being based in the one or more fuel attributes of the fuel bundles represented by the graphical fuel bundles* (see pages 1 & 2 of *O'Sullivan* and Figure 9 of *Hogan*).

**3.3** Regarding claims 37, 39, 44 and 46 and using claim 37 as an example, *O'Sullivan* teaches, *storing at least one fuel pool database, the fuel database including a fuel pool list of at least one of the fuel bundles residing in the fuel pool; and graphically populating the at least one fuel pool table with a graphical representation of at least one of the fuel bundles on the fuel pool list* (*O'Sullivan* pages 1 & 2 "Access, SQL, Oracle or Sybase as well as Microsoft Excel and Word").

**3.4** Regarding claims 38 and 45 and using claim 38 as an example, *O'Sullivan* in combination with *Hogan* teaches, *wherein the graphical user interface includes a fresh fuel table, and wherein the graphically populating includes graphically selecting, sorting, filtering, or moving the graphical fuel bundles within or among the loading map, the at least one fuel pool table, the reload table, and the fresh fuel table via the one or more loading tools, the selecting, sorting, filtering, and moving being based on the one or more fuel attributes of the fuel bundles represented by the graphical fuel bundles* (see page 2 of *O'Sullivan* "Fresh Fuel Listing" as well as page 1 discloses, "Using a right click on the mouse, groups of symmetric assemblies can be rotated 90, 180 or 270 degrees, core locations are darkened where an assembly has been moved." Regarding the loading tool see *Hogan* figure 9).

**3.5** Regarding claims 40 and 47 using claim 40 as an example, *O'Sullivan* teaches, *analyzing the populated graphical loading map by simulating reactor performance with the populated graphical loading map, the analyzing performed before the physically placing the fuel bundles into the reactor core according to the populated loading map* (see the description of "CPW for SIMULATE-3" on page 1 of *O'Sullivan*).

**3.6** Regarding claims 41 and 48 and using claim 41 as an example, *O'Sullivan* teaches, *wherein the one or more fuel attributes include at least one of exposure, a previous cycle in which the fuel bundle was used, k infinity... O'Sullivan* teaches, (page 2 "Spent Fuel Pool" K-Infinity is the 7th column from the left).

***Conclusion***

**4. THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DWIN M. CRAIG whose telephone number is (571)272-3710. The examiner can normally be reached on 10:00 - 6:00 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul L. Rodriguez can be reached on (571) 272-3753. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Dwin McTaggart Craig

/Paul L Rodriguez/
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